

Storm Data and Unusual Weather Phenomena - July 2014

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
INDIANA, Northeast				
ELKHART COUNTY --- 0.7 N WAKARUSA [41.54, -86.02]				
	07/01/14 00:00 EST		0	Thunderstorm Wind (MG 63 kt)
	07/01/14 00:01 EST		0	Source: Public
Wind gusts to 73 mph were recorded in the Nappanee and Wakarusa area , west of State Route 19. Six to eight inch diameter limbs and utility lines were down in the area with some corn fields laid over.				
KOSCIUSKO COUNTY --- 1.4 SSE GRAVELTON [41.41, -85.92], 0.8 W MILFORD WEISSER ARPT [41.42, -85.89]				
	07/01/14 00:06 EST		0	Tornado (EF0, L: 1.79 mi , W: 50 yd)
	07/01/14 00:08 EST		0	Source: NWS Storm Survey
A NWS survey of damage revealed a brief tornado occurred south of Gravelton . The touchdown occurred just south of County Road 1250 North and east of County Road 400 West where a large metal barn was destroyed. The tornado crossed 1250 North and went through a corn field and impacted a small barn near County Road 200 West, north of County Road 1250 North where debris was thrown into another corn field where the circulation finally lifted. Maximum winds were estimated at 80 mph.				
KOSCIUSKO COUNTY --- 1.9 NE PALESTINE [41.20, -85.92], 2.0 ENE PALESTINE [41.19, -85.92]				
	07/01/14 00:06 EST		0	Tornado (EF1, L: 0.55 mi , W: 150 yd)
	07/01/14 00:08 EST		0	Source: NWS Storm Survey
A brief EF-1 tornado was confirmed on the edge of a larger swath of damaging winds by a NWS Storm survey. The tornado touched down near a residence on South County Road 400 West where several tree trunks were snapped at the tops with 2 trees uprooted. A small barn suffered extensive roof damage and partial wall failure. The tornado quickly shifted towards the southeast, crossing State Route 25 where it began to lift. As it was lifting, over twenty 50 to 75 foot tall healthy trees were uprooted or snapped several feet in the air (DI: TS, DOD: 4). One of the trees fell onto a residence, but no injuries were reported. Maximum winds were estimated at 95 mph.				
ELKHART COUNTY --- 0.5 W ELKHART [41.68, -85.98]				
	07/01/14 00:08 EST		0	Thunderstorm Wind (EG 52 kt)
	07/01/14 00:09 EST		0	Source: Public
Reports of estimated wind gusts to 60 mph were received.				
WABASH COUNTY --- 3.5 NE DISKO [41.03, -85.90], 3.7 NW NORTH MANCHESTER [41.04, -85.81]				
	07/01/14 00:08 EST		0	Tornado (EF1, L: 4.49 mi , W: 150 yd)
	07/01/14 00:12 EST		0	Source: NWS Storm Survey
A NWS survey of damage indicated a tornado touched down just west of State Route 15 in a corn field with some ground scouring noted. The tornado proceeded rapidly east northeast with extensive tree and crop damage. Several farmsteads along the track suffered minor to moderate damage of structures. The tornado crossed into Kosciusko County east of County Road 100 West. Maximum winds for the entire tornado were estimated at 100 mph with a total length across both counties of around 7 miles.				
KOSCIUSKO COUNTY --- 1.6 N OSWEGO [41.34, -85.78]				
	07/01/14 00:09 EST		0	Thunderstorm Wind (EG 56 kt)
	07/01/14 00:10 EST		0	Source: NWS Employee
An off duty NWS employee estimated wind gusts to 65 mph.				
ELKHART COUNTY --- GOSHEN [41.58, -85.83]				
	07/01/14 00:10 EST		0	Thunderstorm Wind (EG 60 kt)
	07/01/14 00:11 EST		0	Source: Public
A tree was blown down onto a residence. No injuries were reported.				
KOSCIUSKO COUNTY --- 0.7 S SYRACUSE [41.41, -85.75]				
	07/01/14 00:10 EST		0	Thunderstorm Wind (EG 60 kt)
	07/01/14 00:11 EST		0	Source: NWS Employee
An off duty NWS employee observed a large tree down, blocking the roadway.				

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KOSCIUSKO COUNTY --- 4.0 ESE SILVER LAKE [41.04, -85.81], 3.7 SSW SIDNEY [41.05, -85.76]				
	07/01/14 00:12 EST		0	Tornado (EF0, L: 2.52 mi , W: 150 yd)
	07/01/14 00:15 EST		0	Source: NWS Storm Survey
A NWS Storm survey confirmed a tornado touched down in Wabash County and crossed into Kosciusko County east of County Road 100 West. One farm just inside the Kosciusko county border had a hog barn destroyed with much of the debris being thrown to the southeast into a large grain silo facility. One large grain bin was completely flattened and severe damage occurred to a harvester silo. In addition, a corn crop field to the south of the county line road and east of the farm was flattened and shredded. Additional extensive crop and tree damage continued before the tornado dissipated in a grove of trees just west of County Road 400 East. The total track of the tornado across both counties was around 7 miles with maximum winds of around 100 mph.				
KOSCIUSKO COUNTY --- 1.2 N ENCHANTED HILLS [41.44, -85.67]				
	07/01/14 00:15 EST		0	Thunderstorm Wind (EG 55 kt)
	07/01/14 00:16 EST		0	Source: Broadcast Media
Local media reported a tree fell onto South County Road (on the Elkhart/Kosciusko County line), west of County Road 43. A 61 year old male driver seen the tree and swerved away from the tree, but crashed into a ditch and other trees, suffering minor injuries.				
STEBEN COUNTY --- ANGOLA TRI STATE ARP [41.63, -85.08]				
	07/01/14 00:15 EST		0	Thunderstorm Wind (MG 57 kt)
	07/01/14 00:16 EST		0	Source: AWOS
An automated weather system at the Steuben County airport in Angola recorded a 66 mph wind gust.				
KOSCIUSKO COUNTY --- 0.5 E WARSAW [41.23, -85.82]				
	07/01/14 00:20 EST		0	Thunderstorm Wind (EG 65 kt)
	07/01/14 00:21 EST		0	Source: Emergency Manager
Emergency management officials reported numerous trees and power lines down across the county.				
KOSCIUSKO COUNTY --- 1.2 ESE WARSAW [41.22, -85.81]				
	07/01/14 00:20 EST	1	0	Thunderstorm Wind (EG 60 kt)
	07/01/14 00:21 EST		0	Source: Emergency Manager
Emergency management officials reported a large , rotten tree fell onto the bedroom of a mobile home in the Fairlane Mobile Home Park. Two adults and two children were inside the home at the time. One child escaped the impacted room, but a 14 year old male did not and was subsequently killed.				
Direct Fatalities: M14MH				
MIAMI COUNTY --- 0.7 N (GUS)GRISSOM AFB PER [40.66, -86.15]				
	07/01/14 00:20 EST		0	Thunderstorm Wind (MG 57 kt)
	07/01/14 00:21 EST		0	Source: Emergency Manager
Emergency management officials reported trees and power lines down in the Eagle Point area , near Grissom Air Reserve Base. A 66 mph wind gust was recorded by the automated sensor at the Air Reserve Base .				
MIAMI COUNTY --- 0.7 N (GUS)GRISSOM AFB PER [40.66, -86.15]				
	07/01/14 00:21 EST		0	Thunderstorm Wind (MG 57 kt)
	07/01/14 00:22 EST		0	Source: AWOS
An automated weather system recorded a 66 mph wind gust.				
KOSCIUSKO COUNTY --- 2.8 N NORTH WEBSTER [41.36, -85.70]				
	07/01/14 00:22 EST		0	Thunderstorm Wind (EG 61 kt)
	07/01/14 00:23 EST		0	Source: Official NWS Observations
Wind gusts to 65 mph were estimated at the NWS office near North Webster.				
WHITLEY COUNTY --- 1.5 SSE COLLAMER [41.05, -85.66], 1.5 SE COLLAMER [41.06, -85.65]				
	07/01/14 00:22 EST		0	Tornado (EF1, L: 0.45 mi , W: 50 yd)
	07/01/14 00:23 EST		0	Source: NWS Storm Survey

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
<p>A NWS survey confirmed damage consistent with a brief EF-1 tornado. The tornado touched down West of County Road 850 West in a bean field and hit a farmstead, destroying a barn and chicken coop along with extensive tree damage. Much of the debris from the barn was lofted and scattered across the adjacent field to the northeast and embedded through the tree line one quarter of a mile northeast. An adjacent horse barn lost most of its roof with a nearby home and garage sustaining minor damage to roofing and siding material. However, severe tree damage occurred through a large grove of trees just north of this location with significant debris noted in the trees, many of which were uprooted or snapped. The tornado quickly lifted after this point. Maximum winds were estimated at 100 mph.</p>				
LAGRANGE COUNTY --- 0.9 NE TOPEKA [41.54, -85.54]				
	07/01/14 00:23 EST		0	Thunderstorm Wind (EG 52 kt)
	07/01/14 00:24 EST		0	Source: Trained Spotter
A trained spotter estimated 60 mph wind gusts.				
NOBLE COUNTY --- ROME CITY [41.50, -85.38]				
	07/01/14 00:26 EST		0	Thunderstorm Wind (EG 60 kt)
	07/01/14 00:27 EST		0	Source: Emergency Manager
Emergency management officials reported 16 homes with roof damage, mostly minor.				
NOBLE COUNTY --- KIMMELL [41.40, -85.55]				
	07/01/14 00:29 EST		0	Hail (0.75 in)
	07/01/14 00:30 EST		0	Source: Trained Spotter
NOBLE COUNTY --- ROME CITY [41.50, -85.38]				
	07/01/14 00:30 EST		0	Thunderstorm Wind (EG 60 kt)
	07/01/14 00:31 EST		0	Source: State Official
Trees and power lines were reported down across the county, with Rome City being hit the hardest.				
WHITLEY COUNTY --- 2.1 W RABER [41.09, -85.47]				
	07/01/14 00:30 EST		0	Thunderstorm Wind (EG 65 kt)
	07/01/14 00:31 EST		0	Source: State Official
Local officials reported trees, tree limbs and power lines down across the county. A power line was reported down across train tracks near State Route 9 and 14.				
LAGRANGE COUNTY --- 0.7 S LAGRANGE [41.64, -85.42]				
	07/01/14 00:35 EST		0	Thunderstorm Wind (EG 65 kt)
	07/01/14 00:36 EST		0	Source: Emergency Manager
Emergency management officials reported widespread tree damage in town. There was a partial roof and wall collapse at Parkside School.				
LAGRANGE COUNTY --- 2.5 SW STROH [41.56, -85.24]				
	07/01/14 00:37 EST	1	0	Thunderstorm Wind (EG 65 kt)
	07/01/14 00:38 EST		0	Source: Emergency Manager
Emergency management officials reported a six to eight foot diameter tree fell into a residence on Big Long Lake . A 64 year old male was crushed by the tree, killing him.				
Direct Fatalities: M64PH				
LAGRANGE COUNTY --- STROH [41.58, -85.20]				
	07/01/14 00:37 EST		0	Thunderstorm Wind (EG 65 kt)
	07/01/14 00:38 EST		0	Source: Emergency Manager
Emergency management officials reported widespread tree damage across the area.				
LAGRANGE COUNTY --- 1.2 WSW LAGRANGE [41.64, -85.44], 0.5 S LAGRANGE [41.64, -85.42]				
	07/01/14 00:38 EST		0	Tornado (EF1, L: 0.93 mi , W: 50 yd)
	07/01/14 00:40 EST		0	Source: NWS Storm Survey

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Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
A NWS survey found damage consistent with a EF-1 tornado in a larger area of straight line wind damage. The tornado touched down just west of LaGrange on US-20 East of County Road 100 West, where tree limb damage was observed. The tornado tracked east towards LaGrange, uprooting and snapping trees as it entered the town south of the local hospital. Numerous trees were uprooted and snapped just west of South County Road 00 East between US-20 and Grant Street. The tornado produced minor structural damage to homes along Grant Street before lifting just west of South Mountain Street. Maximum winds were estimated at 95 mph.				

ALLEN COUNTY --- 0.7 N FT WAYNE [41.08, -85.13]

07/01/14 00:52 EST	0	Thunderstorm Wind (EG 65 kt)
07/01/14 00:53 EST	0	Source: Trained Spotter

Trained spotters estimated 75 mph wind gusts near Northcrest Mall. Large tree limbs were down in the area.

HUNTINGTON COUNTY --- 0.9 SW MARKLE [40.82, -85.34]

07/01/14 00:52 EST	0	Thunderstorm Wind (EG 61 kt)
07/01/14 00:53 EST	0	Source: Emergency Manager

Emergency management officials reported a gas station sign and canopy were blown over at Interstate 69 and US 224.

STEBEN COUNTY --- ANGOLA [41.63, -85.00]

07/01/14 00:52 EST	0	Thunderstorm Wind (EG 60 kt)
07/01/14 00:53 EST	0	Source: Emergency Manager

Emergency management officials reported trees and power lines down around the city.

STEBEN COUNTY --- 1.2 NE NEVADA MILLS [41.74, -85.06]

07/01/14 00:55 EST	0	Thunderstorm Wind (EG 60 kt)
07/01/14 00:56 EST	0	Source: Emergency Manager

Emergency management officials reported trees and debris on US 120 between 300 West and 450 West.

DE KALB COUNTY --- 0.5 E ALTONA [41.35, -85.14]

07/01/14 00:56 EST	0	Thunderstorm Wind (EG 60 kt)
07/01/14 00:57 EST	0	Source: State Official

Reports of trees and power lines down.

DE KALB COUNTY --- 2.7 WNW SUMMIT [41.53, -85.07]

07/01/14 00:56 EST	0	Thunderstorm Wind (EG 60 kt)
07/01/14 00:57 EST	0	Source: State Official

Local officials reported scattered trees and power lines down in the Ashley area.

STEBEN COUNTY --- ANGOLA [41.63, -85.00]

07/01/14 00:56 EST	0	Thunderstorm Wind (EG 65 kt)
07/01/14 00:57 EST	0	Source: Emergency Manager

Emergency management officials reported more than 20 trees uprooted. Four homes suffered significant damage.

ALLEN COUNTY --- 0.9 NW THURMAN [41.13, -85.01]

07/01/14 01:00 EST	0	Thunderstorm Wind (EG 55 kt)
07/01/14 01:01 EST	0	Source: Amateur Radio

Amateur radio operators reported six inch tree limbs down across State Route 37, northeast of I-469.

ALLEN COUNTY --- 1.5 NNW GREENDALE [41.12, -85.13]

07/01/14 01:00 EST	0	Thunderstorm Wind (EG 56 kt)
07/01/14 01:01 EST	0	Source: Trained Spotter

A trained spotter reported numerous tree limbs down with wind gusts estimated to 65 mph.

WELLS COUNTY --- 2.2 ENE MURRAY [40.79, -85.16]

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	07/01/14 01:01 EST		0	Thunderstorm Wind (EG 60 kt)
	07/01/14 01:02 EST		0	Source: Public

Trees were blown down between Bluffton and Kingsland. A tree was also reported down on 500 North east of State Route 1.

ALLEN COUNTY --- 1.3 WNW ZULU [41.04, -84.92]

07/01/14 01:05 EST	0	Thunderstorm Wind (EG 55 kt)
07/01/14 01:06 EST	0	Source: Public

A semi was blown off the road on US 30 near Webster Road.

MIAMI COUNTY --- 0.7 N (GUS)GRISSOM AFB PER [40.66, -86.15]

07/01/14 01:30 EST	0	Thunderstorm Wind (EG 65 kt)
07/01/14 01:31 EST	0	Source: Public

Two power poles were reported snapped at the base.

A line of severe thunderstorms developed in eastern Iowa during the afternoon hours of June 30th. Plenty of instability and moisture was available for the line to mature into a severe bow-echo with the bulk of this racing northwest of the area into Wisconsin and Central Lower Michigan. The southern flank of this line did briefly take on bowing characteristics, producing gusty winds over southern Lake Michigan into portions of northwestern Indiana and far southwestern Lower Michigan before dissipating. Behind this line, a much stronger line of thunderstorms rapidly developed on a pre-frontal trough in northern Illinois. This line had much more favorable parameters to work with deep layer shear to 50 knots and a rapidly increasing low level jet to 50 knots. As this second line of convection raced into northwestern Indiana during the late evening hours, several stronger circulations were noted along the leading edge that lead to multiple tornado confirmations and swaths of at times extensive wind damage. The second event continued into July 1st with additional wind damage and confirmed tornadoes occurring during the early morning hours.

ST. JOSEPH COUNTY --- 0.5 E GRANGER [41.75, -86.11]

07/23/14 00:45 EST	0	Hail (1.50 in)
07/23/14 00:55 EST	0	Source: Public

The public reported hail to the size of ping pong balls fell for 5 to 10 minutes.

ELKHART COUNTY --- 1.4 N SIMONTON LAKE [41.75, -85.98]

07/23/14 00:51 EST	0	Hail (1.25 in)
07/23/14 01:01 EST	0	Source: Public

The public reported hail up to the size of half dollars fell for 5 to 10 minutes.

A cold front was moving into the region during the overnight hours. A weak disturbance aided in the development of overnight thunderstorms. A few were able to briefly sustain updrafts long enough to produce isolated severe hail.

KOSCIUSKO COUNTY --- 1.3 WNW WARSAW [41.24, -85.85]

07/26/14 13:20 EST	0	Hail (0.75 in)
07/26/14 13:21 EST	0	Source: Public

Public reports of one half to three quarter inch diameter hail were received.

KOSCIUSKO COUNTY --- 1.0 W PIERCETON [41.20, -85.74]

07/26/14 13:30 EST	0	Hail (1.00 in)
07/26/14 13:31 EST	0	Source: Amateur Radio

Amateur radio operators reported quarter size hail west of Pierceton.

KOSCIUSKO COUNTY --- 2.5 WNW PIERCETON [41.22, -85.76]

07/26/14 13:30 EST	0	Hail (0.88 in)
07/26/14 13:31 EST	0	Source: Trained Spotter

A trained spotter reported nickel size hail.

HUNTINGTON COUNTY --- 0.7 S ROANOKE [40.96, -85.37]

07/26/14 14:10 EST	0	Hail (0.75 in)
07/26/14 14:11 EST	0	Source: Trained Spotter

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A trained spotter reported penny size hail.				
WELLS COUNTY --- 4.8 W UNIONDALE [40.82, -85.32]				
	07/26/14 14:32 EST		0	Hail (1.50 in)
	07/26/14 14:33 EST		0	Source: Trained Spotter
A trained spotter reported hail to the size of ping pong balls.				
WELLS COUNTY --- 3.9 WSW UNIONDALE [40.81, -85.30]				
	07/26/14 14:33 EST		0	Hail (1.25 in)
	07/26/14 14:34 EST		0	Source: Trained Spotter
A trained spotter reported hail to the size of a half dollar.				
WELLS COUNTY --- 1.4 N BLUFFTON [40.75, -85.17]				
	07/26/14 14:48 EST		0	Hail (2.00 in)
	07/26/14 14:49 EST		0	Source: Public
The public reported hail to the size of hen eggs.				
WELLS COUNTY --- 2.1 S VERA CRUZ [40.67, -85.08]				
	07/26/14 14:48 EST		0	Hail (1.75 in)
	07/26/14 14:49 EST		0	Source: Trained Spotter
A trained spotter reported golf ball size hail.				
A weak Mesoscale Convective Vortex moved out of Wisconsin during the mid-afternoon hours. 100 millibar Mixed Layer CAPE was on the order of 1000-1500 j/kg with strong deep layer shear and pockets of higher 0 to 3 km Storm Relative Helicity. Storms appeared to be slightly elevated with a few storms exhibiting supercell characteristics. These storms managed to produce several reports of hail, some to the size of tennis balls.				
ELKHART COUNTY --- 0.7 S NAPPANEE [41.44, -86.00]				
	07/27/14 14:00 EST		0	Hail (1.25 in)
	07/27/14 14:01 EST		0	Source: Public
The public posted pictures of hail slightly larger than the size of quarters on the office Facebook page.				
ST. JOSEPH COUNTY --- 0.5 E NUTWOOD [41.60, -86.27]				
	07/27/14 14:20 EST		0	Hail (1.25 in)
	07/27/14 14:21 EST		0	Source: Trained Spotter
KOSCIUSKO COUNTY --- 2.6 N NORTH WEBSTER [41.36, -85.70]				
	07/27/14 14:37 EST		0	Hail (1.00 in)
	07/27/14 14:40 EST		0	Source: Official NWS Observations
On duty staff at the NWS office observed a period of hail, ranging from mainly pea size hail to around the size of quarters for a 3 minute period.				
NOBLE COUNTY --- 0.7 N WOLFLAKE [41.34, -85.50]				
	07/27/14 14:50 EST		0	Thunderstorm Wind (EG 55 kt)
	07/27/14 14:51 EST		0	Source: Emergency Manager
Emergency management officials reported tree limbs and power lines down along US 33 in the southern parts of the county.				
NOBLE COUNTY --- 0.7 N WOLFLAKE [41.34, -85.50]				
	07/27/14 14:50 EST		0	Thunderstorm Wind (EG 58 kt)
	07/27/14 14:51 EST		0	Source: Emergency Manager
Emergency management officials reported tree limbs and power lines down along US 33 in the southern parts of the county.				
ST. JOSEPH COUNTY --- 0.7 N SOUTH BEND [41.68, -86.25]				
	07/27/14 14:50 EST		0	Hail (1.25 in)
	07/27/14 14:51 EST		0	Source: Trained Spotter

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ELKHART COUNTY --- 3.5 S NEW PARIS [41.45, -85.84]				
	07/27/14 14:55 EST		0	Hail (1.00 in)
	07/27/14 14:56 EST		0	Source: Trained Spotter
A trained spotter reported quarter size hail on US 6, just east of State Route 15.				
NOBLE COUNTY --- ALBION [41.40, -85.42]				
	07/27/14 15:00 EST		0	Hail (0.75 in)
	07/27/14 15:01 EST		0	Source: Public
The public reported dime size hail and a few small tree limbs down on the office Facebook page.				
KOSCIUSKO COUNTY --- 2.1 NE NORTH WEBSTER [41.34, -85.67]				
	07/27/14 15:06 EST		0	Thunderstorm Wind (EG 58 kt)
	07/27/14 15:07 EST		0	Source: Amateur Radio
Amateur radio operators reported a large tree was blown down, covering Epworth Forest Road.				
WHITLEY COUNTY --- CHURUBUSCO [41.23, -85.32]				
	07/27/14 15:06 EST		0	Thunderstorm Wind (EG 50 kt)
	07/27/14 15:07 EST		0	Source: Trained Spotter
A trained spotter reported power lines down on US 33.				
KOSCIUSKO COUNTY --- 2.7 N NORTH WEBSTER [41.36, -85.70]				
	07/27/14 15:10 EST		0	Hail (1.00 in)
	07/27/14 15:11 EST		0	Source: Official NWS Observations
A second storm brought hail ranging from one half inch to one inch in diameter.				
WHITLEY COUNTY --- 2.2 WNW ETNA [41.28, -85.61]				
	07/27/14 15:18 EST		0	Hail (1.75 in)
	07/27/14 15:19 EST		0	Source: Public
The public posted a picture of hail at least the size of golf balls on the office Twitter account.				
ALLEN COUNTY --- 0.9 NW CEDAR CANYONS [41.24, -85.08]				
	07/27/14 15:28 EST		0	Hail (0.75 in)
	07/27/14 15:31 EST		0	Source: Amateur Radio
Amateur radio operators reported penny size hail for three minutes along with a few small tree limbs down.				
ALLEN COUNTY --- 1.7 NE FT WAYNE SMITH ARPT [41.17, -85.13]				
	07/27/14 15:31 EST		0	Thunderstorm Wind (EG 52 kt)
	07/27/14 15:32 EST		0	Source: Trained Spotter
A trained spotter estimated wind gusts to 60 mph near the intersection of Coldwater and Till Roads.				
ALLEN COUNTY --- 0.7 S GRABILL [41.21, -84.97]				
	07/27/14 15:43 EST		0	Hail (1.00 in)
	07/27/14 15:44 EST		0	Source: Public
The public reported hail to the size of quarters.				
HUNTINGTON COUNTY --- 1.0 W HUNTINGTON [40.88, -85.50]				
	07/27/14 15:54 EST		0	Hail (0.75 in)
	07/27/14 15:55 EST		0	Source: Trained Spotter
ALLEN COUNTY --- 2.1 N BROOKSIDE ESTATES [41.18, -85.08]				

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	07/27/14 16:02 EST		0	Thunderstorm Wind (EG 55 kt)
	07/27/14 16:03 EST		0	Source: Public

The public reported a tree was blown down on State Roud 1 and Tonkel Road. Other smaaller limbs were observed on the road.

ADAMS COUNTY --- DECATUR [40.83, -84.93]

07/27/14 16:26 EST	0	Thunderstorm Wind (EG 50 kt)
07/27/14 16:27 EST	0	Source: Trained Spotter

Trained spotters reported several small to medium size branches down across the town.

HUNTINGTON COUNTY --- 1.0 S MAJENICA [40.76, -85.45]

07/27/14 17:40 EST	0	Thunderstorm Wind (EG 48 kt)
07/27/14 17:41 EST	0	Source: Emergency Manager

Emergency management officials reported minor damage near the intersection of State Route 5 and East County Road 500 South. Minor tree damage occurred at a residence on the southeast corner of the intersection, with a small area of corn in an adjacent field being partially blown over. The back window of a vehicle was shattered, likely from flying rocks or debris with a resident suffering minor injuries as a glass table broke with pieces of the table causing some small cuts. There were numerous eyewitness reports (and photographs) of funnel clouds in the area as a result of conditions favorable for the development of landspouts. However, all damage was thrown in a northeast or east direction, consistent with a lack of a circulation on the ground.

A strong upper level trough entered the region during the afternoon hours, with a 110 knot upper level jet streak. This allowed for plenty of deep layer shear, on the order of 45 to 55 knots. While instability wasn't extreme, mixed layer cape in the lowered levels peaked around 2000 j/kg allowing for organized storm development and periodic hybrid super cells. Initials reports were in the form of large hail, with wind damage reports increasing as storm collapses began to occur.

LAKE MICHIGAN

NEW BUFFALO TO ST JOSEPH MI COUNTY --- 1.0 W ST. JOSEPH HARBOR [42.10, -86.50]

07/15/14 07:23 EST	0	Waterspout
07/15/14 07:25 EST	0	Source: Trained Spotter

A spotter for the International Centre for Waterspout Research observed and photographed a brief waterspout just offshore from St. Joseph.

Unseasonably cold air moving across the Great Lakes resulted in the formation of lake effect showers, a few of which produced waterspouts. One was sighted offshore from St. Joseph, MI.

NEW BUFFALO TO ST JOSEPH MI COUNTY --- ST JOSEPH BUOY (45026) [41.98, -86.62]

07/23/14 00:00 EST	0	Marine Thunderstorm Wind (MG 39 kt)
07/23/14 00:01 EST	0	Source: Buoy

A buoy west of the Cook Nuclear Plant recorded a 45 mph wind gust as thunderstorms approached the shoreline.

A cold front was moving into the region during the overnight hours. A weak disturbance aided in the development of overnight thunderstorms. Gusty winds moved onshore across southeastern Lake Michigan.

MICHIGAN, Extreme Southwest

CASS COUNTY --- 2.1 SE MARCELLUS [42.01, -85.79]

07/01/14 00:00 EST	0	Thunderstorm Wind (EG 65 kt)
07/01/14 00:01 EST	0	Source: Trained Spotter

A trained spotter estimated wind gusts to 75 mph.

ST. JOSEPH COUNTY --- 0.7 N THREE RIVERS [41.94, -85.63]

07/01/14 00:10 EST	0	Thunderstorm Wind (EG 55 kt)
07/01/14 00:11 EST	0	Source: Public

The public reported a tree down onto a residence. No injuries were noted.

Storm Data and Unusual Weather Phenomena - July 2014

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
ST. JOSEPH COUNTY --- 0.5 E FLOWERFIELD [42.07, -85.64]				
	07/01/14 00:19 EST		0	Thunderstorm Wind (EG 61 kt)
	07/01/14 00:20 EST		0	Source: Trained Spotter
A trained spotter estimated wind gusts to 70 mph.				
ST. JOSEPH COUNTY --- CENTREVILLE [41.92, -85.53]				
	07/01/14 00:30 EST		0	Thunderstorm Wind (EG 56 kt)
	07/01/14 00:31 EST		0	Source: Amateur Radio
Amateur radio operators reported wind gusts estimated to at least 65 mph.				
BRANCH COUNTY --- 0.5 W SHERWOOD [42.00, -85.24]				
	07/01/14 00:35 EST		0	Thunderstorm Wind (EG 60 kt)
	07/01/14 00:36 EST		0	Source: Emergency Manager
Emergency management officials reported numerous trees and power lines down across mainly the northern part of the county.				
BRANCH COUNTY --- 0.7 S COLDWATER [41.94, -85.00]				
	07/01/14 00:48 EST		0	Thunderstorm Wind (EG 57 kt)
	07/01/14 00:49 EST		0	Source: Emergency Manager
Emergency management officials reported several trees down , blocking some roads. Several dead trees were also felled from the strong wind as well as tree limbs.				
HILLSDALE COUNTY --- 0.5 W HILLSDALE [41.92, -84.63]				
	07/01/14 01:10 EST		0	Thunderstorm Wind (EG 60 kt)
	07/01/14 01:11 EST		0	Source: Emergency Manager
Emergency management officials reported numerous trees down across mainly the northern half of the county.				
HILLSDALE COUNTY --- 1.0 W SOMERSET CENTER [42.05, -84.44]				
	07/01/14 01:13 EST		0	Thunderstorm Wind (EG 60 kt)
	07/01/14 01:14 EST		0	Source: Emergency Manager
Emergency management officials reported the top third of a 154 foot tall 911 communications tower was blown over.				
HILLSDALE COUNTY --- 0.5 E JONESVILLE [41.98, -84.66]				
	07/01/14 01:15 EST		0	Thunderstorm Wind (EG 60 kt)
	07/01/14 01:16 EST		0	Source: Emergency Manager
Emergency management officials reported trees down across the town with scattered power outages.				
HILLSDALE COUNTY --- 0.5 W SOMERSET CENTER [42.05, -84.43]				
	07/01/14 01:20 EST		0	Thunderstorm Wind (EG 60 kt)
	07/01/14 01:21 EST		0	Source: Trained Spotter
A trained spotter reported trees down.				
<p>A line of severe thunderstorms developed in eastern Iowa during the afternoon hours of June 30th. Plenty of instability and moisture was available for the line to mature into a severe bow-echo with the bulk of this racing northwest of the area into Wisconsin and Central Lower Michigan. The southern flank of this line did briefly take on bowing characteristics, producing gusty winds over southern Lake Michigan into portions of northwestern Indiana and far southwestern Lower Michigan before dissipating. Behind this line, a much stronger line of thunderstorms rapidly developed on a pre-frontal trough in northern Illinois. This line had much more favorable parameters to work with deep layer shear to 50 knots and a rapidly increasing low level jet to 50 knots. As this second line of convection raced into northwestern Indiana during the late evening hours, several stronger circulations were noted along the leading edge that lead to multiple tornado confirmations and swaths of at times extensive wind damage. The second event continued into July 1st with additional wind damage and confirmed tornadoes occurring during the early morning hours.</p>				
CASS COUNTY --- EDWARDSBURG [41.80, -86.08]				
	07/23/14 00:45 EST		0	Hail (1.25 in)
	07/23/14 00:55 EST		0	Source: Public

Storm Data and Unusual Weather Phenomena - July 2014

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
The public reported hail to the size ha half dollars fell for 5 to 10 minutes.				
A cold front was moving into the region during the overnight hours. A weak disturbance aided in the development of overnight thunderstorms. A few were able to briefly sustain updrafts long enough to produce isolated severe hail.				
BERRIEN COUNTY --- 0.7 S STEVENSVILLE [42.01, -86.52]				
	07/27/14 13:52 EST	0		Hail (1.75 in)
	07/27/14 13:53 EST	0		Source: Public
The public passed on video footage of hail to the size of golf balls falling in the area.				
BERRIEN COUNTY --- 0.5 E STEVENSVILLE [42.02, -86.51]				
	07/27/14 14:06 EST	0		Hail (1.00 in)
	07/27/14 14:07 EST	0		Source: Trained Spotter
BERRIEN COUNTY --- 0.7 N ST JOSEPH [42.11, -86.48]				
	07/27/14 14:06 EST	0		Hail (0.88 in)
	07/27/14 14:07 EST	0		Source: Fire Department/Rescue
A strong upper level trough entered the region during the afternoon hours, with a 110 knot upper level jet streak. This allowed for plenty of deep layer shear, on the order of 45 to 55 knots. While instability wasn't extreme, mixed layer cape in the lowered levels peaked around 2000 j/kg allowing for organized storm development and periodic hybrid super cells. Initials reports were in the form of large hail, with wind damage reports increasing as storm collapses began to occur.				
OHIO, Northwest				
DEFIANCE COUNTY --- 0.9 SW HICKSVILLE [41.29, -84.76]				
	07/01/14 01:18 EST	0		Thunderstorm Wind (EG 55 kt)
	07/01/14 01:19 EST	0		Source: Amateur Radio
Amateur radio operators reported several large tree limbs down.				
PAULDING COUNTY --- 0.5 W ANTWERP [41.18, -84.74]				
	07/01/14 01:18 EST	0		Thunderstorm Wind (EG 61 kt)
	07/01/14 01:19 EST	0		Source: Public
Estimated 70 mph wind gusts were reported in the area.				
VAN WERT COUNTY --- OHIO CITY [40.77, -84.62]				
	07/01/14 01:45 EST	0		Thunderstorm Wind (EG 55 kt)
	07/01/14 01:46 EST	0		Source: Emergency Manager
Emergency management officials reported a large tree with rot inside snapped, hitting a house and garage. No injuries were reported.				
A line of severe thunderstorms developed in eastern Iowa during the afternoon hours of June 30th. Plenty of instability and moisture was avaiable for the line to mature into a severe bow echo with the bulk of this racing northwest of the area into Wisconsin and Central Lower Michigan. The southern flank of this line did briefly take on bowing characteristics and produce gusty winds over southern Lake Michigan into portions of northwestern Indiana and far southwestern Lower Michigan before dissipating. Behind this line, a much stronger line of thunderstorms rapidly developed on a pre-frontal trough in northern Illinois. This line had much more favorable parameters to work with with deep layer shear to 50 knots and a rapidly increasing low level jet to 50 knots. As this line raced into northwestern Indiana during the late evening hours, several stronger circulations were noted along the leading edge that lead to multiple tornado confirmations and swaths of at times extensive wind damage. The second event continued into July 1st with additional wind damage and confirmed tornadoes occurring during the early morning hours.				
HENRY COUNTY --- 0.7 N NAPOLEON [41.39, -84.13]				
	07/26/14 14:07 EST	0		Hail (1.00 in)
	07/26/14 14:08 EST	0		Source: Public
The public reported hail to the size of quarters.				

Storm Data and Unusual Weather Phenomena - July 2014

Location	Date/Time	Deaths & Injuries	Property & Crop Dmg	Event Type and Details
PAULDING COUNTY --- 2.1 N TIPTON [41.05, -84.67]				
	07/26/14 14:35 EST		0	Hail (3.00 in)
	07/26/14 14:36 EST		0	Source: Trained Spotter
A trained spotter reported hail up to three inches in diameter.				
PAULDING COUNTY --- 0.5 W PAYNE [41.08, -84.73]				
	07/26/14 14:37 EST		0	Hail (1.25 in)
	07/26/14 14:38 EST		0	Source: Trained Spotter
A trained spotter reported hail to the size of a half dollar.				
A weak Mesoscale Convective Vortex moved out of Wisconsin during the mid-afternoon hours. 100 millibar Mixed Layer CAPE was on the order of 1000-1500 j/kg with strong deep layer shear and pockets of higher 0 to 3 km Storm Relative Helicity. Storms appeared to be slightly elevated with a few storms exhibiting supercell characteristics. These storms managed to produce several reports of hail, some to at least the size of tennis balls.				
VAN WERT COUNTY --- 1.6 W SCHUMM [40.75, -84.75]				
	07/27/14 10:39 EST		0	Thunderstorm Wind (EG 55 kt)
	07/27/14 10:40 EST		0	Source: Emergency Manager
Emergency management officials reported trees and power lines down in the area. A semi trailer was flipped over as well.				
ALLEN COUNTY --- 0.7 N SPENCERVILLE [40.71, -84.35]				
	07/27/14 17:05 EST		0	Thunderstorm Wind (EG 50 kt)
	07/27/14 17:06 EST		0	Source: Amateur Radio
Amateur radio operators reported a four inch diameter tree limb was broken off at State Route 117 and State Route 66.				
WILLIAMS COUNTY --- 1.7 WSW PULASKI [41.51, -84.53]				
	07/27/14 18:54 EST		0	Thunderstorm Wind (EG 55 kt)
	07/27/14 18:55 EST		0	Source: Fire Department/Rescue
Local fire officials reported a power pole was blown down on County Road 15 and County Road H.				
A strong upper level trough entered the region during the afternoon hours, with a 110 knot upper level jet streak. This allowed for plenty of deep layer shear, on the order of 45 to 55 knots. While instability wasn't extreme, mixed layer cape in the lowered levels peaked around 2000 j/kg allowing for organized storm development and periodic hybrid super cells. Initial reports were in the form of large hail, with wind damage reports increasing as storm collapses began to occur.				